WHAT IS CLAIMED IS:

1.   A wireless human interface device configured to establish a link with a host, said device comprising:

a transceiver for transmitting data to and receiving data from a host transceiver unit, wherein said host transceiver unit is connected with said host;

a processor connected with said transceiver and configured to process data from said host and said human interface device, and

a power circuit connected with said processor and configured to regulate the power usage of said human interface device, wherein said power circuit comprises:

a battery,

a computer readable media having instructions thereon, wherein said instructions comprise

routines for monitoring the operational state of said human interface device, and

routines for controlling the operation of said human interface device using said operational state of said human interface device.

2.   The wireless human interface device of claim 1 wherein said routines for controlling the operation of said human interface device comprise a routine for keeping the transceiver at a lowered power level during the periods where the transceiver is not exchanging data with said host transceiver unit.

3.   The wireless human interface device of claim 2 wherein said routines for controlling the operation of said human interface device comprise a routine for adjusting the rate of data exchange between said device and said host transceiver unit to a higher rate when said device is transmitting data to said host transceiver unit, from a lower rate used for maintaining a synchronized link with said host transceiver unit.

4.   The wireless human interface device of claim 1 wherein said routines for controlling the operation of said human interface device comprise a routine for powering down the transceiver and said processor if the device remains in an idle state for more than a predetermined time period.

1   5.   The wireless human interface device of claim 4 wherein

2   said routines for controlling the operation of said human interface device

3 comprise:

4   a routine for powering up said processor and said transceiver in response to an

5 input to said device, and

6   a routine for re-establishing a link with said device.

1   6.   The wireless human interface device of claim 1 wherein

2   said power circuit comprises a voltage regulator to adjust the output voltage of

3 said battery to a level desired for the operation of said processor.

1   7.   The wireless human interface device of claim 6 wherein voltage

2 regulator lowers the output voltage.

1   8.   The wireless human interface device of claim 6 wherein voltage

2 regulator boosts the output voltage.

1   9.   The wireless human interface device of claim 1 further comprising a

2 motor connected with same processor and said power circuit to provide vibration feedback to

3 an operator of said device.

1   10.   The wireless human interface device of claim 9 wherein

2   said routines for controlling the operation of said human interface device

3 further comprise a routine for:

4   monitoring the battery voltage, and

5   scaling the drive to said motor as a function of said battery voltage to provide

6   a substantially constant motor output force regardless of the battery voltage.

1   11.   The wireless human interface device of claim 9 wherein

2   said routines for controlling the operation of said human interface device

3 further comprise a routine for providing a maximum motor output force at a minimum battery

4 level

1   12.   The wireless human interface device of claim 9 wherein

2   said routines for controlling the operation of said human interface device

3   further comprise a routine for:

4   reducing the power delivered to said motor when said battery's voltage level is

5   below a first threshold, and

6   indicating the battery level to an operator of said device.

1   13.   The wireless human interface device of claim 12 wherein

2   said reducing the power delivered to said motor when said battery's voltage

3   level is below a threshold, includes:

4   reducing the power to said motor to zero, when said battery's voltage level is

5   below a second threshold, which is lower than said first threshold, and

6   indicating the battery level to an operator of said device.

1   14.   The wireless human interface device of claim 1 further comprising a

2   plurality of visual indicators connected with said processor and said power circuit, configured

3   to display status information to an operator of said device.

1   15.   The wireless human interface device of claim 14 wherein

2   said routines for controlling the operation of said human interface device

3   further comprise a routine for:

4   activating one of a plurality of said visual indicators when there is a change in

5   said status information, and

6   deactivating said same one visual indicators after a predetermined delay

7   period.

1   16.   A wireless human interface device configured to establish a link with a

2   host, said device comprising:

3   a transceiver for transmitting data to and receiving data from a host transceiver

4   unit, wherein said host transceiver unit is connected with said host;

5   a processor connected with said transceiver and configured to process data

6   from said host and said human interface device;

7   a power circuit connected with said processor and configured to regulate the

8   power usage of said human interface device, wherein said power circuit comprises:

9   a battery,

10   a computer readable media having instructions thereon, wherein said

11   instructions comprise

12   routines for monitoring the operational state of said human

13   interface device, and

14   routines for controlling the operation of said human interface

15   device using said operational state of said human interface device, wherein

16   said routines for controlling the operation of said human interface device

17   comprise a routine for keeping the transceiver off during the periods where the

18   transceiver is not exchanging data with said host transceiver unit.

1   17.   A wireless human interface device configured to establish a link with a

2   host, said device comprising:

3   a transceiver for transmitting data to and receiving data from a host transceiver

4   unit, wherein said host transceiver unit is connected with said host;

5   a processor connected with said transceiver and configured to process data

6   from said host and said human interface device;

7   a power circuit connected with said processor and configured to regulate the

8   power usage of said human interface device, wherein said power circuit comprises:

9   a battery,

10   routines for monitoring the operational state of said human interface

11   device, and

12   a computer readable media having instructions thereon, wherein said

13   instructions comprise

14   routines for controlling the operation of said human interface

15   device using said operational state of said human interface device, wherein

16   said routines for controlling the operation of said human interface device

17   comprise a routine for adjusting the rate of data exchange between said device

18   and said host transceiver unit to a higher rate when said device is transmitting

19   data to said host transceiver unit, from a lower rate used for maintaining a

20   synchronized link with said host transceiver unit.

1   18.   A wireless human interface device configured to establish a link with a

2   host, said device comprising:

3   a transceiver for transmitting data to and receiving data from a host transceiver

4   unit, wherein said host transceiver unit is connected with said host;

5   a processor connected with said transceiver and configured to process data

6   from said host and said human interface device;

7   a power circuit connected with said processor and configured to regulate the

8   power usage of said human interface device, wherein said power circuit comprises:

9   a battery,

10   a computer readable media having instructions thereon, wherein said

11   instructions comprise

12   routines for monitoring the operational state of said human

13   interface device, and

14   routines for controlling the operation of said human interface

15   device using said operational state of said human interface device, wherein

16   said routines for controlling the operation of said human interface device

17   comprise a routine for powering down the transceiver and said processor if the

18   device remains in an idle state for more than a predetermined time period.

1   19.   A wireless human interface device configured to establish a link with a

2   host, said device comprising:

3   a transceiver for transmitting data to and receiving data from a host transceiver

4   unit, wherein said host transceiver unit is connected with said host;

5   a processor connected with said transceiver and configured to process data

6   from said host and said human interface device;

7   a power circuit connected with said processor and configured to regulate the

8   power usage of said human interface device, wherein said power circuit comprises:

9   a battery,

10   a computer readable media having instructions thereon, wherein said

11   instructions comprise

12   routines for monitoring the operational state of said human

13   interface device, and

14   routines for controlling the operation of said human interface

15   device using said operational state of said human interface device, wherein

16   said routines for controlling the operation of said human interface device

17   further comprise a routine for monitoring the battery voltage, and

18   scaling the drive to said motor as a function of said battery

19   voltage to provide a substantially constant motor output force regardless of the

20   battery voltage.

1   20.   A wireless human interface device configured to establish a link with a

2   host, said device comprising:

3   a transceiver for transmitting data to and receiving data from a host transceiver

4   unit, wherein said host transceiver unit is connected with said host;

5   a processor connected with said transceiver and configured to process data

6   from said host and said human interface device;

7   a power circuit connected with said processor and configured to regulate the

8   power usage of said human interface device, wherein said power circuit comprises:

9   a battery,

10   a computer readable media having instructions thereon, wherein said

11   instructions comprise

12   routines for monitoring the operational state of said human

13   interface device, and

14   routines for controlling the operation of said human interface

15   device using said operational state of said human interface device, wherein

16   said routines for controlling the operation of said human interface device

17   further comprise a routine for reducing the power delivered to said motor

18   when said battery's voltage level is below a first threshold, and

19   indicating the battery level to an operator of said device.